

SUPPLEMENTARY DESCRIPTIONS FOR TWO VICTORIAN DESERT LICHENS

by

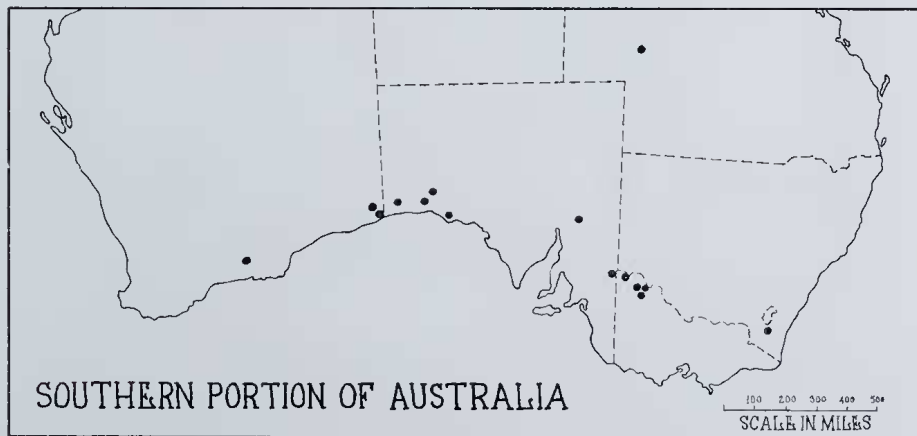
REX B. FILSON.*

Parmelia semiviridis (F. Muell. ex Nyl.) P. Bibby.

Writing in *Muelleria* Vol. 1. No. 1 (page 60) the late P. N. S. Bibby described this species and remarked "ascus and spores wanting". Since Mr. Bibby's contribution, good fruiting material was collected by the present author at Rocket Lake, in the Sunset country of north-western Victoria, and a description of the apothecia is as follows:

Apothecia sessile constricted at the base, up to 2 mm. diam., deeply concave at first, becoming plane; *Disk* light brown to reddish-brown; *Margin* elevated, crenulate, concolourous with the thallus; *Calyx* very pronounced of vertical hyphae, 80–100 μ tall; *Hypothecium* up to 80 μ thick in the centre; *Hymenium* 55–60 μ tall; *Paraphyses* simple or branched, 4 μ diam.; *Asci* 40–45 x 10–12 μ ; *Ascospores* 10 x 5 μ .

Colour reactions: K—, C—, KC—, P+ yellow becoming orange.



For distributional details see Bibby page 60.

Parmelia semiviridis, as usually found, is dry and rolled into small balls with the undersurface outermost (see plate XI, fig. b.). When dampened, it soon flattens out resembling fig. a.

Parmelia amphixantha Müll. Arg.

Fruiting specimens of this dry-country lichen were recently discovered in the Hattah Lakes District of north-western Victoria. As far as known, this is the first occasion on which this widespread

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lichen has been found in fruit. Dr. J. Müller of Argau, Switzerland described the species in 'Lichenologische Beiträge No. 28' from specimens collected near Lake Albacutya, Victoria, by Charles French. Dr. Müller's type description, reprinted from *Flora* 71: 139, is as follows:

1312. *Parmelia amphixantha* Müll. Arg., thallus gracilis, vix mediocris, laciniatodivisus, utraque pagina albido-flavus; laciniae e dichotomo pinnatipartitae, lacinulae patentes, bilobae aut bifidae, priores 2–3 mm. latae, ultimae 1–1½ mm. latae, omnes subplanae, subtus ob margines leviter recurvos concaviusculae, rhizinis distantibus longis nigris v. subnigris laxissime adnatae, caeterum nudae et undique laeves, intus albae. Apothecia ignota.—Similis brasiliensi *P. flavae* Krph. Lich. Warm. p. 373, sed divergenter laciniata, subtus distanter et triplo longius rhizinosa et pagina inferior haud piceo-nigra.—In Australiae orientalis prov. Victoria ad lacum Albacutya: C. French.

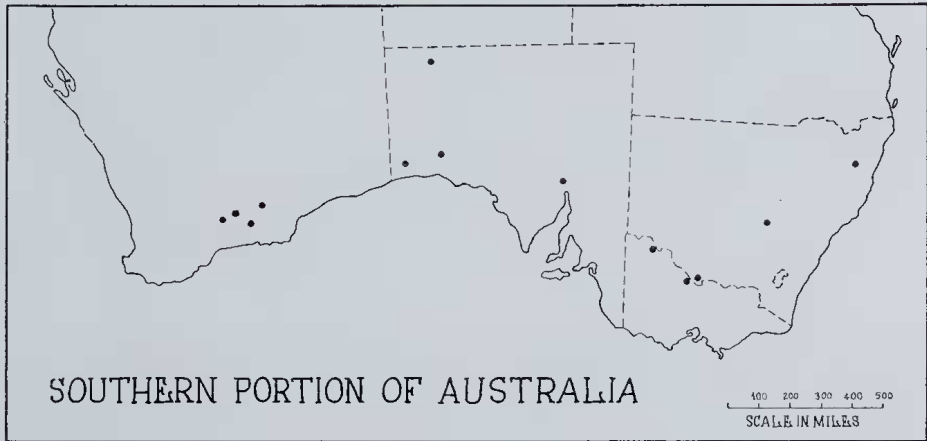
This description can now be supplemented as follows:

Apothecia rara, in superficie thalli sessilia, ad basin constricta, 1–2 mm. diam. *Discus* concavus, undulatus, in colore 'Andorra' (teste Maerz & Paul). *Margo* prominens, crenulatus, cum thallo concolor. *Hypothecium* 40 μ crassum. *Hymenium* 50–55 μ altum. *Paraphyses* in duobus ramosi, ad apices expansi. *Asci* 10–18 x 35–40 μ . *Ascospores* paulatim generatae, ellipsoideae, hyalinae, circiter 6 x 10 μ .

Thallus foliose forming rosettes on earth, up to 5 cm. diam. *Lobes* dichotomously branched 1.0–2.0 (–3.0) mm. wide. *Upper surface* convex, matt, smooth or minutely rugulose with occasional cracks on the older lobes, isidia and soredia absent, reed-green (M&P) tips of the lobes brownish. *Undersurface* grading from reed-green to dark-brown, sparsely rhizinate, rhizines dark-brown to black, dull, simple or dichotomously branching. *Upper Cortex* 12–16 μ thick. *Algal layer* discontinuous, cells 8–12 μ diam. *Medulla* white, compactly woven of hyphae 5 μ diam. *Lower Cortex* 20 μ thick, *Rhizines* 80 μ diam.

Apothecia very rare, sessile on the upper surface of the thallus, constricted at the base, 1–2 mm. diam. *Disk* concave, undulate, Andorra (M&P) *Margin* prominent, crenulate, concolorous with the thallus. *Calyx* up to 40 μ thick. *Hypothecium* 40 μ thick. *Hymenium* 50–55 μ high. *Paraphyses* dichotomously branched, expanded at the apices. *Epithecium* light brownish. *Asci* 10–18 x 35–40 μ , 8-spored, an occasional anomalous ascus with up to 12 spores. *Ascospores* poorly developed, ellipsoidal, hyaline, about 6 x 10 μ .

Colour reactions: K—, C—, KC—, P+ yellow-orange, becoming red-orange.



Distribution :

VICTORIA—

Castlemaine, *F. Robbins* 2-1943 (MEL 6300); Kulkyne National Forest, *R. V. Smith* 26-9-1949 (MEL 10167); Gunbower Island, Murray River, *Rex Filson* (6433) 14-6-1964 (MEL 10387); Hattah Lakes. *Rex Filson* (7326) 14-6-1965 (MEL 10166).

NEW SOUTH WALES—

Nine miles south of Armidale, *J. E. Begg* 14-1-1952 (MEL 6212); Echuca to Deniliquin road, 9 miles north of Moama, *Rex Filson* (5403) 12-10-1963 (MEL 10177); Parkes to Orange road, 16 miles east of Parkes, *Rex Filson* (5496) 10-10-1963 (MEL 10176).

SOUTH AUSTRALIA—

Camp 7, west of Moolapinna Hill *R. Helms* (61) 23-6-1891 (MEL 6218); Ivy Cave, Nullarbor region, *D. S. Kemsley* 8-1-1952 (MEL 10180); 11 miles east of Koonalda H.S. *J. H. Willis* 18-10-1961 (MEL 10178); Yudnapinna R. *W. Rogers* (19) 11-2-1965 (MEL 10386).

WESTERN AUSTRALIA—

Camp 62 on the Ponton River, *R. Helms* (64) 27-9-1891 (MEL 6217); Fraser Range, *R. Helms* (3,44) 10-1891 (MEL 6211, 6214, 6216); Karolin, *R. Helms* (54) Dec. 1891 (MEL 6219); Banda road north-west of Kalgoorlie, *L. Smith* 23-9-1951 (MEL 10179).

Parmelia amphixantha differs from *P. semiviridis* macroscopically in having black rhizinae on the undersurface and in the fact that it does not roll into small balls when dry. *P. semiviridis* is much more robust in outward appearance and not as finely divided as *P. amphixantha* which is illustrated on plate XII.

The author wishes to thank Mr. J. H. Willis, of the National Herbarium Melbourne, for translating into Latin a description of the apothecia of *Parmelia amphixantha*.

BIBLIOGRAPHY

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Müller, J., 1892—*Hedwigia* 31: 193.
Wainio, E. A., 1900—*Mém. Herb. Boissier* No. 5, p. 7.
Zahlbrückner, A., 1930—*Cat. Lich. Univ.* 6: 224.
Willis, J. H., 1951—*Mem. Nat. Mus. Melb.* 17: 64 (as *P. congruens*).
Bibby, P., 1955—*J. roy. Soc. W. Aust.* 39: 29.

Explanation of Plate XI

Parmelia semiviridis (F. Muell. ex Nyl.) P. Bibby.

- a. Portion of thallus in the flattened (dampened) state.
- b. Portion of thallus in the rolled up (dry) state.
- c. Portion of thallus showing apothecia.
- d. Enlargement of apothecia.
- e. Section through apothecium.
- f. Enlarged section through apothecium.
- g. Development of ascus.
- h. Enlarged section through thallus.
- i. Portion of older part of thallus showing lobules.

Explanation of Plate XII

Parmelia amphixantha Müll. Arg.

- a. Thallus growing on surface of desert sand.
- b. Enlargement of portion of thallus.
- c. Showing the undersurface and rhizines.
- d. Enlargement of rhizines.
- e. Enlargement of apothecia.
- f. Section through apothecium and thallus.
- g. Enlarged section showing upper part of apothecium.
- h. Development of ascus (top right showing an anomalous ascus, top left a partly empty ascus with two mature spores).
- i. Paraphyses.
- j. Enlarged section through upper and lower part of thallus.

PLATE XI

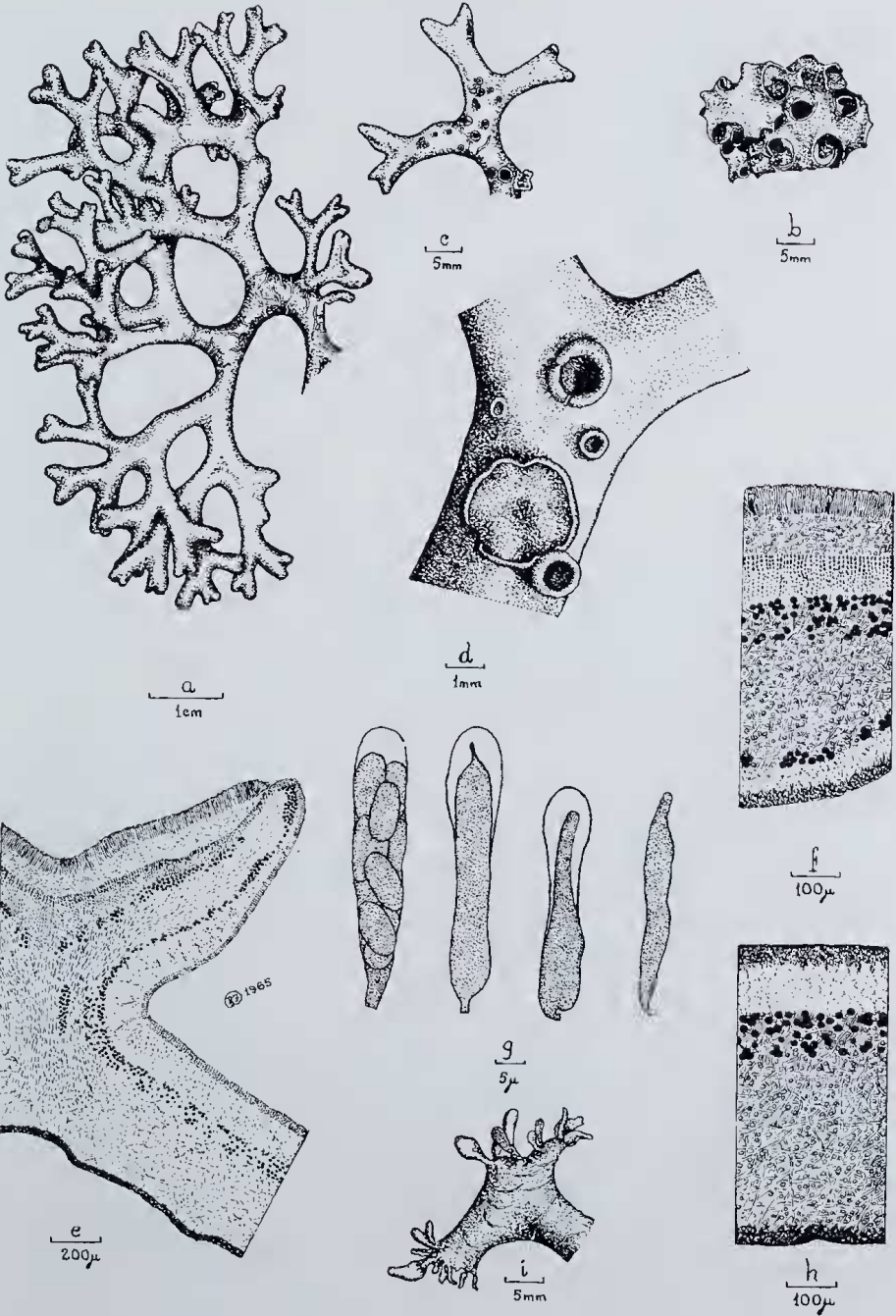
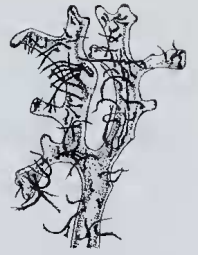
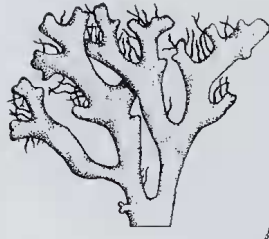


PLATE XII



a
1cm

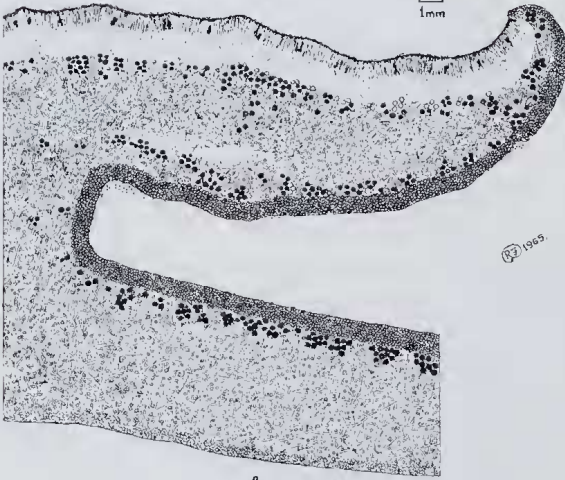
b
1mm

d
1mm

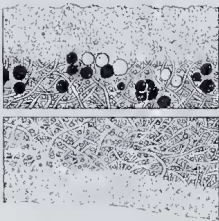
c
1mm



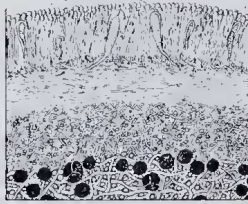
e
1mm



f
100μ



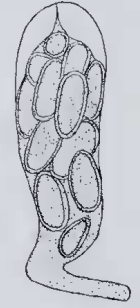
j
50μ



g
50μ



h
10μ



i
5μ



l
5μ

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